B A U S C H & L O M B I N C O R P O R A T E D

R O C H E S T E R 2, N E W Y O R K

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3-606

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November 12, 1962

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[redacted]
Post Office Box 8043
Southwest Station
Washington, D. C.

Subject: Contract 705 - Task Order #3
Variable Magnification Tracing
Projector

Gentlemen:

The Variable Magnification Tracing Projector has been completely designed and is ready for manufacturing. The design results are extremely favorable and we have the utmost confidence that all of the design requirements will be met.

During this design phase there were several areas which were more complex than anticipated, the most serious being the mirror moving mechanism because of its sensitivity and performance requirements. It, of course, must remain level and aligned vertically throughout its range of travel. This could have been a severe requirement for manufacturing if a number of related surfaces had to be machined throughout the framework of the instrument. Also the assembly would have been equally critical and time consuming. To save manufacturing and assembly costs the design used consists of a system with three machined surfaces on one moving part, the mirror cradle pads. Then, using Uni-balls in the top of the lead screws, the system can be easily aligned by setting the mirror housing at its bottom of travel, raising to the top (the Uni-ball seek their desired position of least resistence) and locking in place. The lens changer mechanisms appeared at first to be simple, however, during design it was found that it would have to be very carefully thought out to avoid interference from a number of other critical elements, including the manner and means of changing. A disk, cable and pulley arrangement is now required to insure positional accuracy and to get the changer knob sufficiently out of the way of the roll film, yet to be logical from a human engineering standpoint. Although originally we expected to only make sketches

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of the instrument components the above problems dictated that more detailed drawings be prepared. As indicated in the attached cost summary we have severely overspent on the engineering phase and request that additional funds be allocated to this program.

The additional costs involved we feel will be greatly outweighed by the following benefits:

1. Considerable simplification of the manufacturing and assembly process.
2. Less debugging required.
3. Potentially earlier delivery than stated in contract.
4. A useable set of drawings will be available from which further limited production can be made.
5. Potential saving of $1000.00 per instrument if production instruments are desired.

During a recent visit, two possible additions to the instrument were discussed. They are 1. Seal the entire cabinet against dust and smoke. 2. Add a drop leaf panel to one side of the instrument. The costs to add these features are listed on the cost summary.

Expenditures through November 9, 1962, are 90% of the total contract value. Referring to my letter of November 9, with your approval, our next step will be to place a subcontract to manufacture the instrument. Since the amount of the subcontract when added to the accumulated expenditures exceeds the present contract total your prompt consideration of this request will be appreciated.

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Very truly yours,

[redacted]

DCB
Enc.

Product Supervisor
Analytical & Photogrammetric
Instrument Sales

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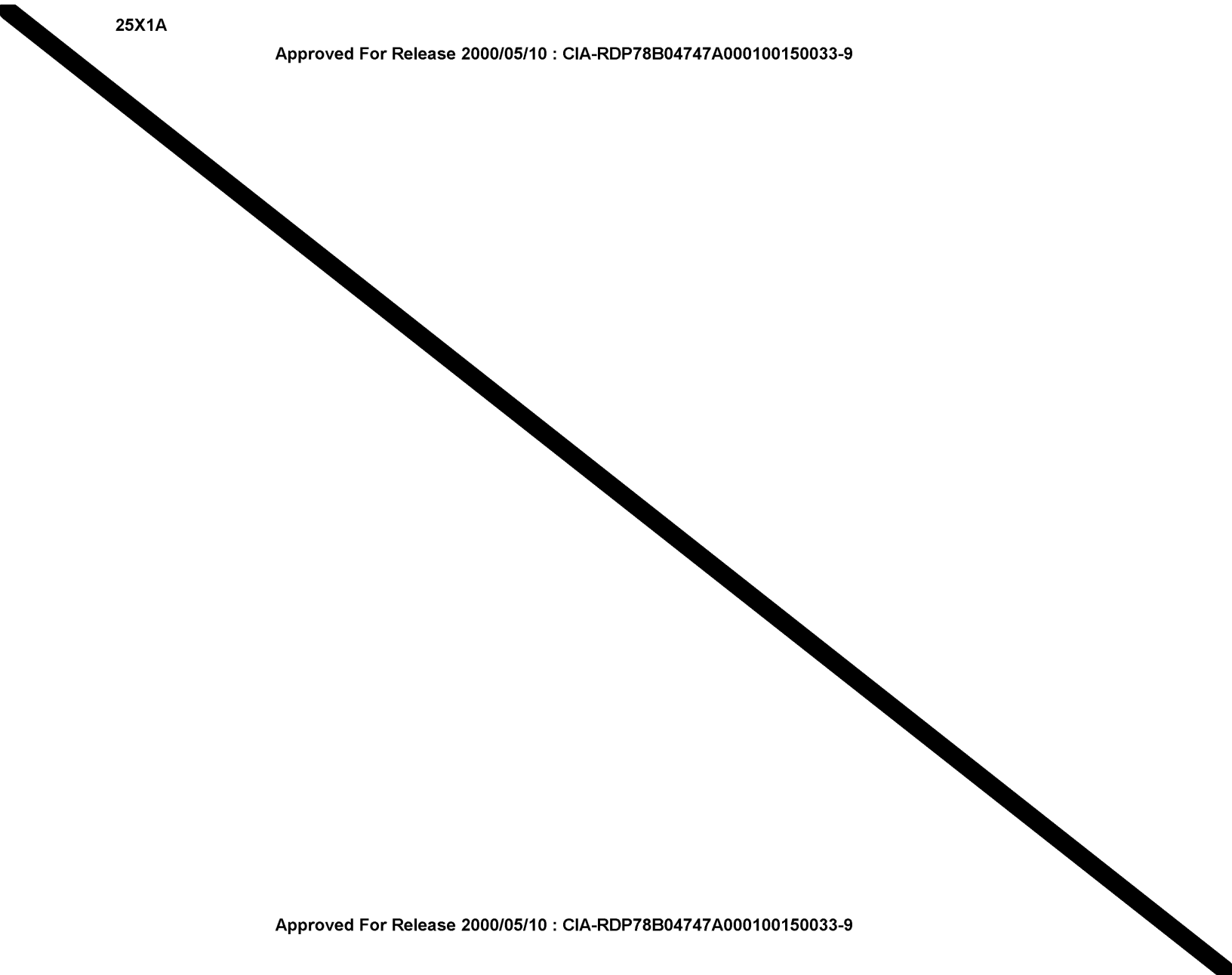

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